

SUPPORT FOR THE AMENDMENTS

Claims 8, 11-13, and 26 have been canceled.

Claims 1, 5, 7, 9, 19, and 25 have been amended.

Claim 27 has been added.

Support for the amendment to Claims 1, 5, 7, 9, 19, and 25 is found at the corresponding claims as originally filed, as well as in Claims 8 and 26. New Claim 27 is supported by original Claim 1.

Furthermore, in original Claim 19, the formula has been corrected to recite the proper formula. In the original formula, there was an error in the denominator which incorrectly recited a "minus"-sign, whereas it should have been a "plus"-sign. An appropriate correction is requested, for the following reason: The order parameter is a parameter giving a quantity measurement for the order of the mixture. It can take values between 0 and 1, wherein 1 means a theoretical state of complete order and 0 means the theoretical complete absence of order in a system. The description on page 7 and original claim 19 give two examples of values which the order parameter may adopt, namely 0.5 and 0.7. Such values between 0 and 1 can mathematically only be achieved if the numerator of the fraction has a minus-sign, and the denominator of the fraction has a plus-sign. Hence, nothing else was intended than what is now offered as the correction.

No new matter has been added.

REMARKS

Claims 1-7, 9, 10, and 14-25 are pending in the present application.

The rejection of Claims 1-26 under 35 U.S.C. §112, second paragraph, is obviated by amendment.

Applicants have amended the claims herein to address the Examiner's criticisms. Specifically, Applicants have amended the claims to remove the terms "preferably", "more preferably" etc. in Claims 1, 5, 7, 9, 19 and 25.

Withdrawal of this ground of rejection is requested.

The rejection of Claims 1-26 under 35 U.S.C. §102(e) over Roberts et al (US 7,014,891) is obviated by amendment.

Applicants make no statement with respect to the propriety of the Examiner's allegations as to the previously pending claims and in no way acquiesce to the same. Solely to expedite examination of this application, Applicants have amended the claims herein to specify that the "additive, when viewed on its own, has no permanent dipole or a dipole ≤ 0.1 Debye". Therefore, this ground of rejection is now moot.

Specifically, Roberts et al disclose compositions comprising a liquid crystal material and a dopant, which dopant is reported to be dipolar (see claim 1, the abstract, and various passages of the description, for example column 2, line 16). In contrast thereto, the additives that are used according to new claim 1 have no permanent dipole or a dipole ≤ 0.1 Debye. Consequently, Roberts et al do not anticipate the subject matter of claim 1. All the other claims are directly or indirectly dependent on claim 1 and therefore share novelty thereof.

Withdrawal of this ground of rejection is requested.

The obviousness-type double patenting rejection of Claims 1-26 over the claims of U.S. 7,014,891 is obviated by amendment.

With respect to non-obviousness, Applicants again submit that the claims of U.S. 7,014,891 discloses compositions comprising a liquid crystal material and a dipolar dopant, i.e. a dopant which has a permanent dipole. In contrast thereto, the dopants according to the present invention have no permanent dipole or a dipole ≤ 1 Debye. This difference has the effect that, whilst the rise time is greatly improved, the decay time is not increased, see for example figure 4 of the present application, where a comparison is shown between L20, a dopant without a dipole, and J6, a dopant having a permanent dipole, the latter being repeatedly disclosed in prior art reference Roberts et al (US 7,014,891). Consequently, the problem underlying and solved by the present invention was to provide for improved compositions containing a liquid crystal material and an additive. This solution, provided by the present invention, is not disclosed or suggested in Roberts et al. Roberts et al explicitly teaches and emphasizes to use a dye having a permanent dipole which is a general theme that perpetuates throughout the disclosure of Roberts et al.

Nothing in Roberts et al suggests that one could also use dopants without any dipole, and the person skilled in the art, based on the disclosure of Roberts et al, would have had no incentive to look further for alternative solutions. Moreover, he would have had no reasonable expectation of success when exchanging the dye having a permanent dipole for a dye without a permanent dipole; and he certainly would not have expected that dyes without a dipole would show a (desired) reduction in rise time, which is not accompanied by an (undesired) increase in decay time. The skilled artisan would not have expected that in using a dye without a permanent dipole, the ankering/homeotropic alignment is unaffected or even

improved (see figure 4 and page 13, fourth paragraph of the WO-publication (WO 2005/059061)).

These effects are not disclosed in the disclosure of Roberts et al, let alone that such effects are attributed by Roberts et al to the presence of a dye without a permanent dipole. Consequently, the subject matter of claim is not obvious over the claims of Roberts et al. All the other claims are directly or indirectly dependent on claim 1 and therefore share its non-obviousness.

Withdrawal of this ground of rejection is requested.

Applicants submit that the present application is now in condition for allowance.
Early notification of such action is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Bradley D. Lytle
Attorney of Record
Registration No. 40,073

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413-2220
(OSMMN 08/03)

Vincent K. Shier, Ph.D.
Registration No. 50,552